Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

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Exploration of approaches by which States Parties, individually or collectively, might contribute to the strengthening of international response capabilities for infectious disease outbreaks, whether natural or deliberate in origin

Australia's Health Security Initiative: Strengthening regional response capabilities for infectious disease outbreaks

Submitted by Australia

I. Background

1. Under the Biological Weapons Convention Article VII, State Parties undertake to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests. These obligations need to integrate seamlessly with other international obligations such as the International Health Regulations (2005) [1]. To date, the majority of our experience in the provision of support has been in response to natural outbreaks. However, what has been learned is relevant and directly applicable to responding to a deliberate event. In this regard, there are several key factors important in building and retaining the ability to respond in a timely and coordinated fashion to natural or deliberate events. These factors include Parties having well-equipped laboratories, functional surveillance systems able to detect and report diseases of importance, and a skilled workforce across the spectrum of laboratory, epidemiology and clinical care. Australia is working with our region through the Regional Health Security Initiative to build strong, integrated and responsive systems. The Initiative also supports BWC Article VII and Article X obligations for the Indo-Pacific region.

II. Introduction

2. Globally, epidemics and emerging or re-emerging infections are threatening population health as well as adversely impacting on travel and trade in our increasingly

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interconnected world. Many epidemic threats, such as cholera, yellow fever and dengue, create significant challenges for the health systems of low-resource countries. Other threats, such as the 2009 pandemic A/H1N1, the Ebola Viral Disease epidemic in West Africa in 2014-2016, and the rapid emergence of Zika virus in South America in 2015, have demonstrated the potential of new pandemics with global impact and highlight **the need for improvements in global outbreak detection** [2, 3]. This is of direct relevance to MX4, with its focus on assistance, response and preparedness and the exploration of approaches by which States Parties might contribute to the strengthening of international response capabilities for infectious disease outbreaks.

3 In addition to natural disasters such as earthquakes and flooding events that may result in epidemics in affected populations, the risk of accidental or intentional release of biological agents is a further threat to global health security. Epidemics, recurrent or unanticipated, add to the heavy burden borne by health services already struggling to cope with the major diseases of poverty such as tuberculosis and malaria, and the growing impact of non-communicable diseases such as diabetes.

4. The revised International Health Regulations (2005) that entered into force on 15 June 2007 represented a paradigm change in terms of shift from **control of borders to containment at source** and a departure from a focus on listed diseases to awareness of all potential public health threats. The International Health Regulations are an international legal instrument that is binding on 196 countries across the globe, including all Member States of the World Health Organization [1]. The aim of the IHR (2005) is to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.

5. Under the IHR (2005), Member States have the responsibility to develop the capacity to detect, assess, respond and report to the World Health Organization any public health event of potential international concern. These may include events of a natural or a deliberate nature. This responsibility mirrors that of Article VII of the BWC whereby States Parties are under an obligation to assist upon request States that have been exposed to a danger as a result of a violation of the BWC. The ability to meet these requirements relies on countries having in place **robust and functional public health surveillance and laboratory systems as well as a sufficient and appropriately trained work force**. Rapid detection depends upon effective disease surveillance systems [4].

6. Since the introduction of the IHR (2005), resources have increasingly been committed worldwide for the prevention and treatment of infectious diseases. Further, in recent years there has also been a particular increase in attention for **medical laboratory strengthening**, both from the perspective of improving patient care and in terms of improving public health surveillance [5]. **The diagnosis and management of any infectious disease starts with an accurate laboratory test reported in a timely fashion**. Inadequate laboratory services and ineffective surveillance can lead to, amongst other adverse outcomes, unnecessary expenditures in resource-poor settings; inability to determine the true prevalence of disease; ineffective treatment particularly in terms of inappropriate use of antibiotics; increased but avoidable mortality and morbidity.

7. Hence, well-equipped laboratories paired with functional surveillance systems and a skilled and capable workforce are essential for the detection and management of disease whether for routine public health or for epidemic response. Early detection and management of disease outbreaks – whether natural or deliberate in origin - can only be accomplished if **responsive systems** are in place. Enhancing international detection and response capabilities for infectious disease outbreaks are an important mechanism to strengthen implementation of the BWC given the same capabilities would be required to respond to a deliberate event.

III. The Australian Government Health Security Initiative

8. In October 2017, the Australian Minister for Foreign Affairs, the Hon. Julie Bishop MP, launched the Australian Government's Health Security Initiative for the Indo-Pacific region. The Initiative aims to contribute to the avoidance and containment of emerging and re-emerging infectious disease threats with the potential to cause social and economic harms on a national, regional or global scale. In this regard, Australia is working with our partners to **strengthen regional response capabilities** for infectious disease outbreaks, whether natural or deliberate in origin.

9. Australia is well placed to work with countries in Asia and the Pacific to deal with problems such as emerging infectious diseases and antimicrobial drug resistance. Australia has world-class domestic systems for disease surveillance and control in human and animal health and a strong track record of cooperation with the countries of the Indo-Pacific on social and economic development, including primary health care and livestock management.

10. The Initiative is led by Australia's Ambassador for Regional Health Security and is being implemented by the Indo-Pacific Centre for Health Security. With funding of A$300 million over five years (2017-2022), the Initiative aims to inform **evidence-based planning**, help prevent avoidable epidemics, **strengthen early detection capacity**, and **support rapid, effective national and international outbreak responses**. It will meet these objectives by accelerating research on new drugs and diagnostics, expanding partnerships at the national, regional and global level to strengthen human and animal health systems, and deepening people-to-people linkages that build national and regional health security capacity.

11. The Centre is approaching all work objectives from a One Health perspective. That is, **capacity building and workforce strengthening across both human and animal laboratories** and surveillance systems. Key components of the initiative currently under implementation include **strengthening effective working relationships and international cooperation**. The Initiative is investigating laboratory 'twinning' whereby laboratories in the Region will be assisted and mentored by high-quality laboratories in Australia. The Initiative provides funding for Product Development Partnerships to develop innovative treatments and diagnostics for malaria and tuberculosis, as well as vector control for mosquito-borne diseases. In addition, the Initiative supports a new Health Security Fellows Program for students in the ASEAN region to receive a world-class post-graduate qualification in field epidemiology in collaboration with hands-on training via a public health placement in their country. These integrated activities serve to develop skills at country level and facilitate the sharing of knowledge and experiences for the rapid detection and response of public health events of potential international concern.

IV. Conclusion

12. Australia's BWC-related cooperation and assistance makes a strong contribution to public health and disease prevention, surveillance and detection, international cooperation in the biological sciences and improvements in biosafety and biosecurity. The Initiative advances Australia's interests in the BWC, particularly with regard to the implementation of Article VII and Article X via the provision of capacity-building support at country level in the Region.

13. The BWC is key part of the global non-proliferation and disarmament architecture. While the international community has not had to respond recently to deliberate use, the risk of deliberate use remains. What we know about effective responses and preparedness

comes from natural, not deliberate outbreaks. However, in many respects, the detection and subsequent response actions will be much the same for a natural or a deliberate outbreak. Both will require strong surveillance systems, laboratories that can run the correct tests, and a workforce able to respond with appropriate action.

14. It is also important that the relevant frameworks - notably the BWC and IHR (2005) – are connected. Given the IHR response mechanisms are more developed, there is a need to encourage those people working in this field from a public health perspective to be aware of the security dimension and the BWC framework and work collaboratively to support it. In keeping with this need to build an integrated response capacity, the UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons (UNSGM) has highlighted the need to build an improved operational capability to launch promptly, conduct efficiently and report accurately and investigation of alleged BW use in response to a request from a UN Member State.

15. This BWC experts meeting can help us to strengthen responsiveness by sharing experiences, lessons learned and best practice. Key programmes such as Australia's Health Security Initiative demonstrate how enhanced international cooperation and assistance for public health capacity and response can also help reinforce the security objectives of the BWC.

V. References

1) International Health Regulations (2005), 2nd edition. Geneva: World Health Organization; 2005. See also: http://www.who.int/topics/international_health_regulations/en/

2) Chan EH, et al. Global capacity for emerging infectious disease detection. *PNAS*, 2010; 107 (50): 21701-21706.

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5) Barbé B, et al. Implementation of quality management for clinical bacteriology in low-resource settings. *Clin Microbiol Infect*. 2017; 23 (7): 426–33.